



# CRA Insights: Energy

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*In this issue of CRA Insights: Energy, we speak with Brian Rivard about his career, the Ontario energy market, and ongoing discussions around the establishment of a capacity market structure for Ontario's electricity market.*



Brian is an expert in energy market design, market analysis, and market monitoring matters. Before joining CRA in September, Dr. Rivard was Director of Markets at the Independent Electricity System Operator (IESO) in Ontario. He was previously a senior economist with the Canadian Competition Bureau. He holds a PhD in Economics from the University of Western Ontario.

## **Is there a common thread that connects your career in government, the private sector and now, consulting?**

I enjoy applying economic thinking and economic models to real life problems. Working at the Competition Bureau and the IESO allowed me to do this from the perspective of the regulator. I worked on many interesting problems with talented and knowledgeable individuals. I look forward to applying this experience to help private sector clients and hope to consult for the Bureau and IESO with the benefit of additional insights gained by working alongside my new colleagues at CRA.

## **Is there a particular initiative or project that you worked on at the IESO that stands out?**

I tell anyone that is interested in listening, that the best job I ever had, was when I was senior economic advisor to the Market Surveillance Panel, the market monitor for the province. I was in this role during the lead up to the start of the market and for several months after the start of the market. We were the first to start seeing the market data, both during the market testing and then in actual market operations. This data gave us a unique and intimate understanding of how the market was working and the different market dynamics. For data geeks, it doesn't get any better than this.

## **You started at the IESO shortly after it was established in 1998. What was the most significant development in the Ontario energy market during that time?**

It is difficult to point to one significant development in the Ontario energy market over that time. Instead there have been three distinct phases: the “Rise and Decline of the Wholesale Energy Market (2002 to 2004);” the “Central Procurement and a Culture of Conservation (2015 to 2008);” and “A Commitment to Renewables and the Effects of Shale Gas (2009 to present).”

### **What key themes or characteristics define each phase?**

For the wholesale energy market, the concern was that the market on its own would not encourage the type of generation investment required to address the looming supply shortages. This was further aggravated by the government’s announcement that it would be shutting down the province’s coal fired generators over the coming years.

With the “Central Procurement and Conservation” phase came the creation of the Ontario Power Authority (OPA) which had responsibility for long-term planning and procurement, and conservation. During this time the Ontario government gained legislative authority to direct the OPA to procure to achieve a certain supply mix. The Global Adjustment was also created to fund the out-of-market payments to all the contracted and regulated generation and conservation programs that were developed.

The third phase saw the introduction of the Green Energy and Green Economy Act (now known as the Ontario Green Energy Act). The lower demand as a result of the recession in 2009, coupled with the increase in the amount of wind and solar, led to frequent events where there was too much base load generation for the given level of demand, requiring the need to manoeuvre nuclear facilities to manage the grid.

Eventually, the IESO passed rules that made wind and solar dispatchable within the real-time market. The lower demand, the increase in wind and solar and lower gas prices also contributed to a significant decline in the wholesale energy price and a corresponding increase in the amount of out-of-market payments and the size of the Global Adjustment. The Global Adjustment now represents a larger share of the consumer’s bill than the wholesale energy price.

### **So what might signal the start of a fourth phase?**

The merger of the IESO and the OPA in January 2015 likely marks the start of the fourth phase. This merger brings together real-time operations of the grid with long-term planning, procurement and conservation efforts.

## **Is the discussion around a capacity market structure for Ontario’s electricity market more a question of *when* not *if*?**

I would like to think it is more a question of “when” as I favour using competitive means to address future capacity needs over the current use of government directives and sole source contracts. I believe the “stall” has occurred because the IESO’s projection for when Ontario will need new capacity has shifted. Two years ago, the IESO expected a capacity shortfall would emerge around 2018 or 2019. This coupled with the fact that the various contracts with gas

generators would start expiring in the 2020s, led the IESO to believe it needed something in place by 2016 or 2017. Since this time, several developments have extended the date of the expected capacity shortfall to sometime around 2021. These developments include the agreement between Ontario and Quebec to swap capacity, the resigning of long term contracts with about 500 MW of NUG generators, as well as changes in nuclear refurbishment dates and the possible extension for the Pickering nuclear facilities.

### **What do market participants see as the hurdles to moving forward or alternatively, the reasons to maintain the status quo?**

Many market participants view the significant level of regulatory and policy uncertainty as the biggest hurdle to making a capacity market work in Ontario. The ability of the Ontario government to intervene in the market and direct the IESO to procure new investment creates investment risk, and many believe that a short-term commitment, which is typically associated with a capacity market, would not be sufficient to attract new investment—a much longer term commitment would be required.

### **Are there any lessons to be learned from the US in terms of capacity markets?**

The IESO spoke extensively with US ISOs about their experiences implementing and operating capacity markets. Consistently, the message was to get the design right the first time because it is difficult to make changes later. Many US ISOs described how they incorporated design aspects that they did not like but felt they needed to gain stakeholder acceptance. When some of those designs didn't work, there were always certain market participants that benefitted from these design short-comings.

Nonetheless, US capacity market designs have evolved considerably since they were first conceptualized. Ontario is in the enviable position to learn from the efforts of other ISOs and market participants and has the best shot of all of the ISOs at “getting the design right” the first time.

### **What sorts of projects do you expect to work on at CRA?**

My interest and expertise in market design, market analysis and market monitoring matters will provide opportunities to work on litigation matters with lawyers and energy firms, on market design matters either for the regulator or for market participants, and on market analysis issues perhaps advising energy firms on market strategies.

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